

REMARKS

This is a full and timely response to the Office Action mailed May 26, 2005, submitted concurrently with a one month extension of time to extend the due date for response to September 26, 2005.

By this Amendment, claim 1 has been amended to incorporate the limitations of claim 2. Further, claims 1 and 3 have been amended to put the claims in better form and to overcome the Examiner's claim objection. Support for the claim amendments can be found variously throughout the specification and the original claims.

In view of this Amendment, Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above amendments and the following remarks is respectfully requested.

Objection to the Specification

The specification has been amended to address minor matters of form and syntax as requested by the Examiner. No new matter has been added. Thus, in light of the changes to the specification, withdrawal of this objection is requested.

Objection to the Claims

Claims 1 and 3 are objected to for the incorrect spelling of "organosiloxay". As noted above, Applicant has amended claims 1 and 3 to change the term "organosiloxay" to --organosiloxy-- as per the Examiner's request. Thus, withdrawal of this objection is respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1 and 2 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shueller et al. (U.S. Patent 6,719,868) in view of the collective teachings of Ohtake et al. (U.S. Patent 5,780,148) and Usuki (U.S. Patent 5,914,151). Further, claim 3 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shueller et al. (U.S. Patent 6,719,868) in view of the collective teachings of Ohtake et al. (U.S. Patent 5,780,148) and Usuki (U.S. Patent 5,914,151), and further in view of Hess et al. (U.S. Patent 6,627,588). Applicant respectfully traverses these rejections.

To establish a *prima facie* case of obviousness, the following three criteria must be satisfied. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference(s) must teach or suggest all the claim limitations. Here, in this case, there is no suggestion or motivation, either in the cited references or in the prior art, to modify or combine the reference teachings.

In column 13 of Schueller et al., it is disclosed that PDMS resin of μ TAS and glass are joined by carrying out oxidization by plasma. However, the feature of the present invention is that similar effects to an oxidization treatment by plasma can be achieved by irradiating ultraviolet radiation having wavelength of 220 nm or less. Such effect is not taught or suggested based on the teachings of cited references or the prior art.

When a plasma process is carried out, a large sized vacuum chamber is required. Therefore, the size of a process machine also becomes large. Moreover, since UV radiation has much smaller energy than plasma, it is generally believed in the art to be difficult to carry out the UV process in the same period of time as the plasma process. However, the inventor of the present invention has unexpectedly discovered such is not the case.

As described on page 8, lines 13 through 22, of the specification, “*Oxygen or ozone mainly acts with the ultraviolet radiation emitted from the light source in such a UV irradiation treatment, so that active oxygen is generated. When the active oxygen contacts the surface 11 of the polysiloxane substrate 10, the surface 11 is oxidized so that methyl group related to the organosiloxy (group) is desorbed on the surface 11, and the silicon atom to which the methyl group was joined is joined with the active oxygen.*”

As a result, as described on page 8, line 26 through page 9, line 6, of the specification, “*the UV irradiation treatment is performed in the air, and since moisture may exist in the atmosphere of the treatment and a hydrogen atom may be combined with active oxygen, the surface 11 of the polysiloxane substrate 10 is in the state (refer to Fig. 3) where the hydroxyl group was combined with the silicon atom.*”

Moreover, as described on page 9, line 26 through page 10, line 9, of the specification, “*since the surface 11 of the polysiloxane substrate 10 is made in close contact with the surface 21 of the glass substrate 20 in the state where an oxygen atom exists, and as shown in Fig. 5, a covalent bond is formed in the interface of the surface 11 of the polysiloxane*

substrate 10, and the surface 21 of a glass substrate 20 so that the surface 11 of the polysiloxane substrate 10 and the surface 21 of the glass substrate 20 are joined, thereby joining the polysiloxane substrate 10 and the glass substrate 20.”

Based on Applicant’s review of the cited references, such effects are not at all disclosed or suggested in Shueller et al., Ohtake et al., Usuki, and Hess et al. either alone or in combination.

It is also important to note that Ohtake et al. only discloses a thin film having hydrophilic property and a method therefore. It does not disclose that a resin and glass are joined. In addition, neither Schueller et al. nor Ohtake et al. disclose that the organosiloxy group containing surface is irradiated by ultraviolet radiation having a wavelength of 220 nm or less.

Furthermore, although Schueller et al. disclose that resin and glass is adhered, Ohtake et al. conflict with the teachings of Schueller et al. since it only discloses a thin film having hydrophilic property and a method of making thereof. Therefore, there is no reason to combine or modify the teachings of Schueller et al. with Ohtake et al. to arrive at the present invention.

As stated above, an obviousness rejection can only be established if there is some teaching, suggestion, or motivation found in the references or in the art to combine or modify the cited references. If the teachings of the cited references conflict, such conflict is evidence that the cited references cannot be combined or modified. In particular, if a proposed modification would render the prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Since the combined disclosures of Schueller et al. and Ohtake et al. would render the film of Ohtake et al. unsatisfactory for its intended purpose, there can be no suggestion or motivation, in any of the cited references, to modify or combine the reference teachings to arrive at the present invention.

Thus, for at least these reasons, withdrawal of this rejection is respectfully requested.

CONCLUSION

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

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Respectfully submitted,

By 
Lee Cheng
Registration No.: 40,949

RADER, FISHMAN & GRAUER PLLC
1233 20th Street, N.W.
Suite 501
Washington, DC 20036
(202) 955-3750
Attorneys for Applicant

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